Application No. 10/051,160

IN THE DRAWINGS:

Please replace Figures 2, 4, and 5 as originally filed with this application with the enclosed Replacement Sheets of Figure 2, 4, and 5, accompanied by a Letter to the Official Draftsperson. Figures 2, 4, and 5 have been amended to coincide with Applicant's amendments to the Specification.

REMARKS

Claim Rejections

Claim 1 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-20 are rejected under 35 U.S.C. § 102(e) as being anticipated by England (6,144,991). Claims 6 and 16 are rejected under 35 U.S.C. § 103(a) as being obvious over England. Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over England in view of Conboy et al. (6,363,418).

Substitute Specification

It was felt that the most expeditious way of correcting the numerous grammatical and idiomatic inaccuracies present in the specification as filed was the preparation of a Substitute Specification. It is believed that the Substitute Specification overcomes the outstanding objections to the specification. The Substitute Specification is attached hereto and is accompanied by a marked-up copy of the original specification which indicates the changes made thereto by the Substitute Specification. No "new matter" has been added to the original disclosure by the Substitute Specification. Entry of the Substitute Specification is respectfully requested.

Abstract of the Disclosure

Applicant is submitting a substitute Abstract of the Disclosure for that originally filed with this application to more clearly describe the claimed invention. Entry of the Substitute Abstract of the Disclosure is respectfully requested.

Drawings

It is noted that the Examiner has accepted the drawings as originally filed with this application. However, Applicant has chosen to replace Figures 2, 4, and 5 as originally filed with this application with the enclosed Replacement Sheets of Figure 2, 4, and 5, accompanied by a Letter to the Official Draftsperson. Figures 2, 4, and 5 have been amended to coincide with Applicant's amendments to the Specification.

No "new matter" has been added to the original disclosure by the amendments to these figures. Entry of the corrected drawing is respectfully requested.

New Claims

By this Amendment, Applicant has canceled claims 1-17 and has added new claims 18-31 to this application. It is believed that the new claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

As amended the claims recite, a method for guide reading of a digital content, the method at least comprising steps of: presenting the digital content which comprises a plurality of object-events; providing a guide reading content which includes at least a guide reading event trace including information related to some of the object-events of the digital content, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event; providing a guide reading playing mechanism which includes at least an event triggering mechanism for triggering the related object-events by way of triggering pseudo events in accordance with object-event triggering time in the guide reading event trace.

Another embodiment is directed toward: an apparatus for guide reading of a digital content, the apparatus comprising at least: a central processing unit; a display device; a memory storing at least the digital content comprising a plurality of object-events is displayed on the display device; the memory also stores a guide reading content which includes at least a guide reading event trace including information related to some of the object-events of the digital content, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event; a guide reading playing mechanism includes at least an event triggering mechanism for triggering the related object-events in the guide reading event trace on the display device by way of triggering pseudo events in accordance with object-event triggering time.

Summary of the Invention

The main function of the present invention is that it may be used to display the "interactive functions" comprised in a digital content by the object-events of a guide reading event trace triggered in time sequences. The digital content is made up of a plurality of objects, and the objects comprise some object-events to respond to input devices and to display the "interactive functions" of the digital content. (Ref. 1) The guide reading event trace is made up of the information related with the object-events, wherein each of the information comprises at least: object-event types, identification data of an object and object-event triggering time related to an object-event. (Ref. 2) The interaction process between the digital content and users can be displayed by way of triggering the related object-events in time sequence through triggering pseudo events (Ref. 3) according to object-event triggering time in the guide reading event trace. (Ref. 4)

For further discussion of Ref1: Refer to the original application, page 2, line 23: "....The article content is a digitized document responding to an event." Refer to the original application, page 4, lines 1-2: ".... The memory stores at least a digitized article content capable of responding to events ......" Refer to the original application, page 2, lines 28-30: ".... the required guide reading actions in the container or in the article contents will trigger guide reading event trace comprising the information related to all of the guide reading events." Refer to original application, page 4, lines 9-11: "the required guide reading actions in the container or in the article web page will trigger guide reading event trace comprising the information related to all of the guide reading events...."

For further discussion of Ref2: Refer to the original application, page 2, lines 29-30: "..... comprising the information related to all of the guide reading events." Refer to the original application, page 9, lines 14-18: ".....For instance, a multimedia broadcasting button key (btnObj) may be used to broadcast the multimedia objects. When users click the button key once, the contents of the multimedia objects are started to broadcast. Hence the related information of the web page event should be recorded are: identification data of the button key, even type (onclick) and triggering time." Refer to the original application, page 10, line 35- page 11, line 2: ".....The event recording mechanism records a web page object (Obj3), event type

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(Kind3), processing procedures (Proc3), and triggering time (t3) related to the event..."

For further discussion of Ref3: Refer to the original application, page 9, lines 21-22: "..... generate click pseudo events (pseudo events, btnObj_onclick), then the multimedia start to broadcast automatically." Refer to the original application, page 10, line 34: "..... a pseudo event Obj2_onclick is generated....."

For further discussion of Ref4: Refer to the original application, page 3, lines 4-5: "......and trigger the guide reading event traces according to event triggering time sequences in the article window." Refer to the original application, page 4, lines 18-19: "......and trigger the guide reading event traces according to event triggering time sequences in the article web page window...." Refer to the original application, page 15, lines 28-32: "The event triggering mechanism in the guide reading broadcasting mechanism...according to sequences of event triggering time in the article window triggers the guide reading event trace...."

Response to Examiner's Arguments

In reply to page 3, the last lines 3-2: "loading a guide reading content into the article window (col. 19, lines 36-56)": Please refer to the summary of the invention above, wherein the application mentioned is to load a guide reading content to a user end while the guide reading content is different from the loaded content mentioned in the cited reference, col. 19, lines 36-56.

In reply to page 3, the last lines 2-1: "the guide reading content including at least a guide reading event trace (shared pointer, col. 32, lines 31-41)": Please refer to summary above detailing that the guide reading event trace mentioned in the application is made up of the information of some object-events; besides, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event. As for the WGP command: POINTER MOVE X Y" mentioned in the cited reference, col. 32, lines 31-41 is not an object-event.

In reply to page 4, section 8, lines1-7: "the guide reading event trace being linked to an intent guide reading portion of the article content (the shared pointer is designed to allow parts of web pages to be highlighted by any user of the session,

col. 31, lines 57-65) and when guide reading the intent guide reading portion, the required guide reading actions in the container or in the article contents will trigger guide reading event trace comprising the information related to all of the guide reading events (piper server sends command to all connected clients, col. 32, lines 31-41)": Please refer to the Summary above; the event triggering mechanism taught in the application for triggering object-events of a digital content by way of triggering pseudo events in accordance with object-event triggering time in the guide reading event trace is different from the WGP command function. Regarding the WGP command of the cited reference; as mentioned in col. 32, lines 13-20: "WGP extensions needed to be added to provide the functionality of the shared pointer. The following is a sample of typical commands: POINTER ON (to make the pointer visible); POINTER OFF (to make the pointer invisible); .... and POINTER MOVE X, Y (to move POINTER to position X, Y)." Besides, as mentioned in col. 32, lines 51-54: "Typically for this feature to be useful, it is necessary for the Web browser in remotely displayable frame 1010 of director application 1306 and the client Web browser 1312 to be the same size." The application is not limited to a window size. The event triggering mechanism is to trigger the events of objects comprised in the digital content and it can still correctly trigger object-events by way of triggering pseudo events in accordance with object-event triggering time in the guide reading event trace even though the geometric locations of the objects are changed. And there is no need to be concerned about the window or the font size in view at a user end.

In reply to page 4, lines 7-8: "and loading a guide reading broadcasting mechanism (web guided tour) into the article window (col. 14, lines 37-64 and col. 22, lines 35-64)": As per the cited reference (col. 22, lines 39-43): "A control window allows the client to start, stop, and seek in the animation as well as control whether the animation loops or automatically deletes itself when the animation finishes," it is clear that the content played by the cited reference is an animation rather than the guide reading event trace played by the present application.

In reply to page 4, lines 8-10: "the guide reading broadcasting mechanism including at least an event triggering mechanism (launched when appropriate button or menu item is selected, col. 22, lines 35-45)": As per the cited reference, col. 22,

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lines 39-43: "A control window allows the client to start, stop, and seek in the animation as well as control whether the animation loops or automatically deletes itself when the animation finishes," it is clear that the content played by the cited reference is an animation rather than the guide reading event trace played by the present application.

In reply to page 4, lines 10-17: "...wherein the event triggering mechanism of the guide reading broadcasting mechanism based on an intent guide reading portion designated by users in the article content searches and retrieves guide reading event traces linked to the intent guide reading portion (request file to be played is requested from director application, wherein the director application inherently invokes a search to retrieve the designated file, col. 22, line 65-col. 23, line 5, also see col. 23, lines 46-48, wherein the director application checks to see if the requested file exists)": As per the cited reference (col. 22, lines 39-43): "A control window allows the client to start, stop, and seek in the animation as well as control whether the animation loops or automatically deletes itself when the animation finishes," it is clear that the content played by the cited reference is an animation rather than the guide reading event trace played by the present application.

In reply to page 4, lines 17-20: "....and triggers the guide reading event traces according to event triggering time sequences in the article window (col. 14, lines 37-46 also see Fig. 24, col. 24, line 44-col. 25, line 39 for time sequence and col. 22, lines 35-45, wherein a control window opens on the client browser to play recorded session)": As per the cited reference (col. 22, lines 39-43): "A control window allows the client to start, stop, and seek in the animation as well as control whether the animation loops or automatically deletes itself when the animation finishes," it is clear that the content played by the cited reference is an animation rather than the guide reading event trace played by the application. Also, as per the cited reference, col. 14, lines 40-46: "For recorded events, the Hamelin system is arranged with an editor and playback tool to associate Web pages with times and events in the broadcast for recorded events. For Web guided tours, the Hamelin system provides clients with an overview of the highlights of a Web site by providing an audio and video tour supplemented with Web pages from the site," it is clear that

the "events" mentioned in the cited reference are not events possessed by webpage-objects; instead, the "events" are used by an editor to associate Web pages. Also, the cited reference provides the function of recording a film from the frame of the Web pages associated by an editor to play it at a client end for Web guided tours.

In order to assist the Examiner in understanding the present invention Applicant has attached Attachment 1, which is a webpage, and Attachment 2 which is the source code for this webpage. The URL of the webpage shown in Attachment 1 is: http://140.115.8.222/event or http://www.daami.net/event. After a user clicks the button SELECT (210), left presses with a mouse and moves on the blank area of the Webpage, a red rectangle will be displayed on the blank area and its size may be changed as the mouse moving. If the user clicks the button START-RECORD (130) before clicking the button SELECT (210) and then draws a red rectangle on the blank area of the Web page, the guide reading event trace related with the drawing process of the said red rectangle can be recorded by the event recording mechanism. (Appendix-3, page 6. line 28~ page 7, line 3) Once when the user clicks the button STOP-RECORD (140), the guide reading event trace recorded previously will be real time shown on the area (220) (Appendix-3, page 7, lines 5~29; page 8, lines 7~32). By examining the guide reading event trace, wherein the object-event of the button SELECT (210) clicked by the user will record the following data:

N | SelBtn | OnClick | _ , _ | TN

N: used to mark the record sequence only;

SelBtn: the identification data of the button SELECT (210);

OnClick: the object-event type of clicking the button SELECT (210);

_ , _: to represent the parameter of the object-event. The object-event comprises no parameter and uses "_" instead.

TN: the triggered time of the object-event;

The following data will be recorded while an object-event that the user left presses with a mouse and moves to draw the red rectangle occurs:

M | Document | OnMouseMove | x , y | TM

M: used to mark the record sequence only;

Document: the object identification data related with the object-event;

OnMouseMove: the type of the object-event;

x , y: the parameter of the object-event, also the graphic location of the mouse;

TM: the triggered time of the object-event;

As long as the user clicks the button PLAY (110), the event triggering mechanism will enable those object-events triggered by way of triggering pseudo events in accordance with object-event triggering time in the guide reading event trace. (Appendix-3, page 10, line 18~ page 11, line 4; page 11, line 33; page 12, line 3; page 12, line 8)

In view of the above, it is clear that England does not teach: a method for guide reading of a digital content, the method at least comprising steps of: presenting the digital content which comprises a plurality of object-events; providing a guide reading content which includes at least a guide reading event trace including information related to some of the object-events of the digital content, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event; providing a guide reading playing mechanism which includes at least an event triggering mechanism for triggering the related object-events by way of triggering pseudo events in accordance with object-event triggering time in the guide reading event trace. Nor does the reference teach: an apparatus for guide reading of a digital content, the apparatus comprising at least: a central processing unit; a display device; a memory storing at least the digital content comprising a plurality of object-events is displayed on the display device; the memory also stores a guide reading content which includes at least a guide reading event trace including information related to some of the object-events of the digital content, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event; a guide reading playing mechanism includes at least an event triggering mechanism for triggering the related object-events in the guide reading event trace on the display device by way of triggering pseudo events in accordance with object-event triggering time.

It is axiomatic in U.S. patent law that, in order for a reference to anticipate a claimed structure, it must clearly disclose each and every feature of the claimed

structure. Applicant submits that it is abundantly clear, as discussed above, that England do not disclose each and every feature of Applicant's new claims and, therefore, could not possibly anticipate these claims under 35 U.S.C. § 102. Absent a specific showing of these features, England cannot be said to anticipate any of Applicant's new claims under 35 U.S.C. § 102.

Conboy is cited as teaching a viewing device. However, Conboy does not supply the above noted deficiences of the primary reference.

Even if the teachings of England alone were modified or combined with Conboy, as suggested by the Examiner, the resultant modification or combination does not suggest: a method for guide reading of a digital content, the method at least comprising steps of: presenting the digital content which comprises a plurality of object-events; providing a guide reading content which includes at least a guide reading event trace including information related to some of the object-events of the digital content, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event; providing a guide reading playing mechanism which includes at least an event triggering mechanism for triggering the related object-events by way of triggering pseudo events in accordance with object-event triggering time in the guide reading event trace.

Nor does the modification or combination suggest: an apparatus for guide reading of a digital content, the apparatus comprising at least: a central processing unit; a display device; a memory storing at least the digital content comprising a plurality of object-events is displayed on the display device; the memory also stores a guide reading content which includes at least a guide reading event trace including information related to some of the object-events of the digital content, each of the information comprises at least identification data of an object, object-event types and object-event triggering time related to an object-event; a guide reading playing mechanism includes at least an event triggering mechanism for triggering the related object-events in the guide reading event trace on the display device by way of triggering pseudo events in accordance with object-event triggering time.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents

on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

> The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

> As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In <u>In re Geiger</u>, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

> We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either England or Conboy that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither England nor Conboy disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's new claims.
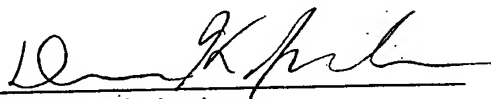
Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.
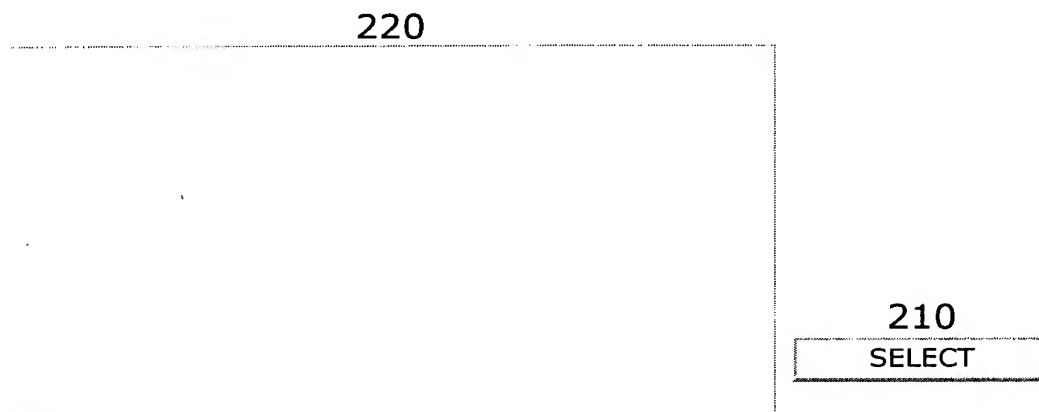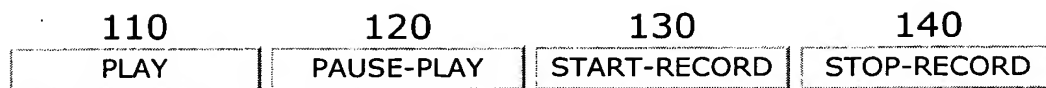
Respectfully submitted,

Date: <u>November 17, 2006</u>   By: _____

Demian K. Jackson
Reg. No. 57,551

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CUSTOMER NUMBER: 40144

Attachment 1

110	120	130	140
PLAY	PAUSE-PLAY	START-RECORD	STOP-RECORD

220

210

SELECT

```
<HTML>
<HEAD>
<META NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Event</TITLE>
<style type="text/css">
body, input {
        font: 15px Verdana;
        background: #FFFFFF;
}
.fieldWidth{
        width:125px;
}
.eventList {
        font: 11px Verdana;
        height: 200px;
        width: 375;
        background-color:#FFFFFF;
}
</style>
</HEAD>
<BODY topmargin="0" leftmargin="0" scroll=no
oncontextmenu="window.event.returnValue=false">
<OBJECT classid='clsid:D27CDB6E-AE6D-11cf-96B8-444553540000'
codebase='"http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#ve
rsion=6,0,0,0'" WIDTH=100 HEIGHT=175 id=teacher style='POSITION:
absolute;left:1;top:1;z-index:10;display:none'>
  <PARAM NAME=movie VALUE='teacher.swf'>
  <PARAM NAME=quality VALUE=high>
  <PARAM NAME=wmode VALUE=transparent>
  <PARAM NAME=bgcolor VALUE=#FFFFFF>
  <EMBED src='teacher.swf' quality=high bgcolor=#FFFFFF  WIDTH=100
HEIGHT=175 TYPE='application/x-shockwave-flash'
PLUGINSPAGE='http://www.macromedia.com/shockwave/download/index.cgi?P1_Pr
od_Version=ShockwaveFlash'></EMBED>
</OBJECT>
```

The line numbers in the left margin are: 5, 10, 15, 20, 25, 30, 35

```
<table border=0 width=500 align=left>
  <tr>
    <td align=center>
      <center><font size=4>110</font></center>
      <input type=button onmousedown="window.event.cancelBubble=true"
onmouseup="window.event.cancelBubble=true" onclick="StartPlay()" id="StartPlay"
value="PLAY" class="fieldWidth">
    </td>
    <td align=center>
      <center><font size=4>120</font></center>
      <input type=button onmousedown="window.event.cancelBubble=true"
onmouseup="window.event.cancelBubble=true" onclick="StopPlay()" id="StopPlay"
value="PAUSE-PLAY" class="fieldWidth">
    </td>
    <td align=center>
      <center><font size=4>130</font></center>
      <input type=button onmousedown="window.event.cancelBubble=true"
onmouseup="window.event.cancelBubble=true" onclick="StartRecord()" id=StartBtn
value="START-RECORD" class="fieldWidth">
    </td>
    <td align=center>
      <center><font size=4>140</font></center>
      <input type=button onmousedown="window.event.cancelBubble=true"
onmouseup="window.event.cancelBubble=true" onclick="StopRecord()" id=StopBtn
value="STOP-RECORD" class="fieldWidth">
    </td>
  </tr>
  <tr>
    <td align=center colspan=4> </td>
  </tr>
  <tr>
    <td align=center colspan=3>
    <font size=4>220</font><br>
    <select id="select1" class="eventList" multiple></select>
    </td>
```

2

```
          <td align=center valign=bottom>
            <center><font size=4>210</font></center>
            <input type=button onclick="SetSelectMode()"
         onmousedown="window.event.cancelBubble=true"
5        onmouseup="window.event.cancelBubble=true" id="SelBtn" value="SELECT"
         class="fieldWidth"><br> 
            </td>
          </tr>
        </table>
10
        <div id="SelDiv" style="position:absolute;width:0;height:0;top:1;left:1;border-
        style:solid;border-width:1;border-color:red;display:none;"> </div>
        </BODY>
        </HTML>
15      <Script Language=VBScript>
        Dim Mx,My,arrTemp
        Dim SMode,StartMove,Sx,Sy,Dx,Dy,n
        Dim RecordStr,playFlag,recordFlag
        Dim RecordStartTime
20      Dim recordTimer
        Dim recordTime,recordTimeStart,recordTimeNew
        Dim timeTemp
        Dim NowMode,NowId
        Dim X0,Y0,Xd,Yd,dS,dT
25      Dim playTwoPointTimeOut
        timeTemp=0

        Sub SetSelectMode()
          SMode=true
30        if recordFlag then
            NowMode="OnClick"
            if window.event.srcElement.id="" then
              NowId="Document"
            else
35            NowId=window.event.srcElement.id
```

3

```
           end if
        end if
     End Sub


5    Sub document_onmousedown()
        if SMode and playFlag=false then
          if window.event.button=1 then
            NowMode="OnMouseDown"
            if window.event.srcElement.id="" then
10             NowId="Document"
            else
              NowId=window.event.srcElement.id
            end if
            if recordFlag then record()
15          if StartMove=false then
              window.document.all("SelDiv").style.display=""
              window.document.all("SelDiv").style.left=window.event.x
              window.document.all("SelDiv").style.top=window.event.y
              window.document.all("SelDiv").style.width=0
20            window.document.all("SelDiv").style.height=0
              Sx=window.event.x
              Sy=window.event.y
              StartMove=true
            end if
25        end if
        elseif SMode and playFlag then
          if StartMove=false then
            window.document.all("SelDiv").style.display=""
            window.document.all("SelDiv").style.left=Dx
30          window.document.all("SelDiv").style.top=Dy
            window.document.all("SelDiv").style.width=0
            window.document.all("SelDiv").style.height=0
            Sx=Dx
            Sy=Dy
35          StartMove=true
```

4

```
        end if
      end if
    End Sub


5   Sub document_onmousemove()
      if playFlag=false then
        Mx=window.event.x
        My=window.event.y
      end if
10    if StartMove then
        if recordFlag then
          NowMode="OnMouseMove"
          if window.event.srcElement.id="" then
            NowId="Document"
15        else
            if window.event.srcElement.id="SelDiv" then
              NowId="Document"
            else
              NowId=window.event.srcElement.id
20          end if
          end if
        end if
        LeftTemp=cint(Mx)-cint(Sx)
        TopTemp=cint(My)-cint(Sy)
25      if LeftTemp>0 and TopTemp>0 then
          window.document.all("SelDiv").style.width=LeftTemp
          window.document.all("SelDiv").style.height=TopTemp
        end if
      end if
30  End Sub


    Sub document_onmouseup()
      if recordFlag then
        if window.event.button=1 then
35        NowMode="OnMouseUp"
```

```
                if window.event.srcElement.id="" then
                  NowId="Document"
                else
                  if window.event.srcElement.id="SelDiv" then
5                    NowId="Document"
                  else
                    NowId=window.event.srcElement.id
                  end if
                end if
10          end if
          end if
          if StartMove then
            SMode=false
            StartMove=false
15          end if
          End Sub


          Sub ClearDiv()
            window.document.all("SelDiv").style.width=0
20          window.document.all("SelDiv").style.height=0
            window.document.all("SelDiv").style.top=1
            window.document.all("SelDiv").style.left=1
            window.document.all("SelDiv").style.display="none"
            document.all("select1").innerHtml=""
25          RecordStr=""
          End Sub


          Sub StartRecord()
            TempN=-1
30          ClearDiv()
            NowMode="_"
            NowId="_"
            recordTime=0
            recordTimeNew=timeTemp
35          recordTimeStart=timer*1000
```

6

```vbscript
        recordTimer=window.setInterval("record()",100,"VBSCRIPT")
        recordFlag=True
     End Sub


5    Sub StopRecord()
        if recordFlag=False Then
            msgbox "Please Click 「Start Record」!",64,"Warning"
            Exit Sub
        End If
10

        window.clearInterval(recordTimer)
        recordFlag=False

        arrStr=Split(RecordStr,"|")
15      RecordStr=""

        For i=0 To (Ubound(arrStr)-5) Step 5
            arrStr(i+4) = arrStr(i+4) - Right(arrStr(i+4),2)
            tmp1 = tmp1 + Right(arrStr(i+4),2)
20          If tmp1 > 100 Then
                tmp1 = tmp1 - 100
                arrStr(i+4) = arrStr(i+4) + 100
         End If
        Next
25      RecordStr=Join(arrStr,"|")

        arrTemp=split(RecordStr,"|")
        SelectShow RecordStr
     End Sub
30

     Sub record() '---The event recording mechanism
        if NowMode="" then NowMode="_"
        if NowId="" then NowId="_"
        recordTime=timer*1000-recordTimeStart+recordTimeNew
35      RecordStr=RecordStr & Mx & "|" & My & "|" & NowMode & "|" & NowId & "|" &
```

```
     recordTime & "|"

        NowId="_"
        NowMode="_"
5    End Sub


     Function SelectShow(TraceStrName)
       arrEventTrace=split(TraceStrName,"|")
       num=1
10      For a = 0 To Ubound(arrEventTrace)-5 Step 5
           ObjId=arrEventTrace(a+3)
           ObjX=arrEventTrace(a)
           ObjY=arrEventTrace(a+1)
           ObjMode=arrEventTrace(a+2)
15         if ObjMode="_" then
              ObjId="_"
              ObjX="_"
              ObjY="_"
           elseif ObjMode="OnClick" then
20            ObjX="_"
              ObjY="_"
           end if


           Set objEntry=document.createElement("OPTION")
25             objEntry.value=num & "|" & ObjId & "|" & ObjMode & "|" & ObjX & "," &
       ObjY & "|" & arrEventTrace(a+4) & "|"
             objEntry.text=num & "|" & ObjId & "|" & ObjMode & "|" & ObjX & "," & ObjY &
       "|" & arrEventTrace(a+4) & "|"
             document.all("select1").add objEntry
30             num=num+1
         Next
       End Function


       Sub StartPlay() '---The event triggering mechanism
35        if RecordStr="" then
```

```
        msgbox "Please record events first!",64,"Warning"
        exit sub
      end if


5     if TempN=-1 or TempN=(ubound(arrTemp)-5) then
        window.document.all("SelDiv").style.width=0
        window.document.all("SelDiv").style.height=0
        window.document.all("SelDiv").style.top=1
        window.document.all("SelDiv").style.left=1
10      window.document.all("SelDiv").style.display="none"

        NowId=""
        NowMode=""
        Dx=""
15      Dy=""
        n=0
      else
        SMode=TempSMode
        StartMove=TempStartMove
20      window.document.all("SelDiv").outerHtml=TempSelDiv
        n=TempN
        Sx=TempSx
        Sy=TempSy
        Mx=arrTemp(n)
25      My=arrTemp(n+1)
        NowMode=arrTemp(n+2)
        NowId=arrTemp(n+3)
        Dx=Mx
        Dy=My
30    end if
      playFlag=true
      window.teacher.style.display=""
      window.teacher.setVariable "setParam","display,1"
      play()
35  End Sub
```

9

```
      Dim TempSMode,TempSelDiv,TempStartMove,TempSx,TempSy,TempN
      TempN=-1
      Sub StopPlay()
5        clearTimeout playTwoPointTimeOut
         playFlag=false
         TempSMode=SMode
         TempSx=Sx
         TempSy=Sy
10       TempN=n
         TempStartMove=StartMove
         TempSelDiv=window.document.all("SelDiv").outerHtml
         window.teacher.setVariable "setParam","display,0"
         window.teacher.style.display="none"
15    End Sub

      Sub play()
         if n<(ubound(arrTemp)-5) then
            window.document.all("select1").selectedIndex=n/5
20          doEvent()

            X0=clng(arrTemp(n))
            Y0=clng(arrTemp(n+1))

25          dT=clng(arrTemp(n+9))-clng(arrTemp(n+4))

            if dT>0 then
               Xd=(clng(arrTemp(n+5))-clng(arrTemp(n)))/dT*100
               Yd=(clng(arrTemp(n+6))-clng(arrTemp(n+1)))/dT*100
30          end if

            window.teacher.style.pixelTop = Y0
            window.teacher.style.pixelLeft = X0

35          playTwoPoint()
```

10

```
        else
          StopPlay()
        end if
      End Sub

5
      Sub playTwoPoint()
        if dT<=0 then
                n=n+5
                play()
10      else
                playTwoPointTimeOut=setTimeout("playTwoPoint()",100,"VBScript")
                dT = dT - 100
                X0 = X0 + Xd
                Y0 = Y0 + Yd
15      end if
      End Sub


      Sub doEvent()
        Mx=arrTemp(n)
20      My=arrTemp(n+1)
        NowMode=arrTemp(n+2)
        NowId=arrTemp(n+3)


        if NowMode="OnClick" then
25        if NowId<>"Document" then
            execute(NowId & "." & NowMode)
            window.teacher.setVariable "setParam","mode,21"
          end if
        elseif NowMode="OnMouseDown" then
30        if NowId="Document" then
            Dx=Mx
            Dy=My
            execute(NowId & "_" & NowMode)
            window.teacher.setVariable "setParam","mode,3"
35        end if
```

11

```
        elseif NowMode="OnMouseUp" then
          if NowId="Document" then
            execute(NowId & "_" & NowMode)
            window.teacher.setVariable "setParam","mode,4"
5         end if
        elseif NowMode="OnMouseMove" then
          if NowId="Document" then
            execute(NowId & "_" & NowMode)
            window.teacher.setVariable "setParam","mode,3"
10        end if
        else
          window.teacher.setVariable "setParam","mode,18"
        end if
      End Sub
15    </Script>
```

DIGITAL INFORMATION GUIDE READING SYSTEM AND METHOD

FIELD OF THE INVENTION

The present invention relates to an information guide reading system and method and
particularly to a digital information guide reading system and method.

BACKGROUND OF THE INVENTION

The rising of the Internet has accelerated information revolution. The availability of
broadband network further ushers the arrival of "knowledge economic age". As the
broadband network can transmit huge amount of dynamic multimedia information, and
hardware for reading multimedia information also are gradually mature, to publish
dynamic information on networks becomes possible and practical now.

Books and magazines that are published by traditional publishers generally have
plane printing contents including texts and pictures. The medium being used is paper.
Distribution channels are bookstores. Some publishers try to augment the contents by
including some video and audio materials. They are mainly to explain the content of the
plane printings. Due to carrier natures, they must rely on other media such as audio or
video tapes to accomplish the goals. Readers not only have to visit bookstores to search
the required books but also have to cover many different carrier media while reading.
It is troublesome, but unavoidable. Now the broadband network is a trend with growing
acceptance. Transmission of multimedia video and audio contents is no longer a
problem. And hardware technologies for browsing multimedia contents are also well
developed. Hence if publishing contents can be digitized in the format of web page
contents, and networks are used as publishing channels, the web pages may contain
texts, pictures and multimedia video and audio contents, adding the powerful
transmission capability of networks to reach anywhere easily, readers can conveniently
procure required publishing contents and read online. All the foregoing problems and
troubles that bother publish industry and readers can be resolved effectively.

As discussed above, publishing of plane medium sometimes has to augment with
video and audio materials for guide reading purposes. Those guide reading contents
generally are focused on the plane contents to serve targeted readers, thus do not have
many variations. They are mostly plain speaking or are augmented with video images

to meet description or explanation purposes. However when utilizing web pages as publishing carriers, the guide reading targets are web pages. Guide reading contents can become much more lively and vivacious. As the web pages not only can include plane contents, but also can dynamically be linked to related contents. They also can

5   dynamically present multimedia contents. Most important, web pages can respond to guide reading actions triggered by web page events (such as mouse movement events, linking events generated by click of a button and hyperlink, etc.). Thus guide reading contents are not only limited to plain speaking in video or audio fashion but also include dynamic guide reading actions. And the guide reading actions may be realistically

10   presented by triggered web page events.

Therefore, utilizing web pages as content carriers, and networks as publishing channels, and web page events as a guide reading contents can achieve online publishing objectives, and, hence, will create a new direction for traditional publishing industry.

15

SUMMARY OF THE INVENTION

The object of the invention is to provide a digital information guide reading system and method that combines the Internet and web page properties to enhance guide reading functions and capability.

20   According to one embodiment of the invention, the digital content guide reading method includes at least the following steps:

1. Presenting an article content ~~in~~ on an article window located in a container at a user end. The article content is a digitized document responding to ~~an~~ events through input device. The carrier of article content is web pages, and the container is a web

25   page browser.

2. Loading a guide reading content in the article window. The guide reading content includes at least a guide reading event trace for linking an intent guide reading portion in the article content. When ~~the guide reading event trace is~~ the intent guide reading portion is guided, the required guide reading actions by a guide (i.e.

30   operating the mouse or pressing the keyboard, etc.) in the container or in the article contents will trigger the guide reading event trace comprising the information related to all ~~of the~~ guide reading events.

3. Loading a guide reading playing mechanism in the article window. The guide reading playing mechanism includes at least an event triggering ~~trigger~~ mechanism.

4. The event triggering ~~trigger~~ mechanism of the guide reading playing mechanism ~~can,~~ can be based on a user's designated intent guide reading portion in the article

5 content, search and retrieve the guide reading event trace which are linked to the intent guide reading portion, and trigger the guide reading event trace according to event triggering time sequences in the article window. The event triggering ~~trigger~~ mechanism further includes functions ~~function~~ to continue, to pause or to resume playing of the guide reading event trace.

10 The container in the method set forth above may be stored in a computer readable storage medium. The container may be a software program (such as web page browser, electronic book reading software, computer assisted instructions software, document processing software, spreadsheet (or trial balance) software, database software, presentation software, electronic mail software and the like). The method further

15 includes remark contents linked to keywords of the article content loading from a remark window located in the container at the user end to allow the user to inquire these ~~the~~ remarks of the keywords of the article content. Or the remark window may be loaded with remark contents linked to a plurality of independent units composing of ~~separated from~~ the article content to allow the user to inquire these ~~the~~ remarks related

20 to the independent units of the article.

The guide reading content further includes at least a guide reading audio data linked to the ~~an~~ intent guide reading portion of the article content. And the guide reading playing mechanism further includes an audio playing mechanism which may be located in the article window to couple with the ~~an~~ event triggering mechanism to

25 synchronously play the guide reading audio data of the intent guide reading portion while triggering the guide reading event trace of the ~~an~~ intent guide reading portion.

In addition, the method set forth above further includes loading a guide reading recording mechanism in the article window. The guide reading recording mechanism includes at least an event recording mechanism for recording the guide reading event

30 trace. The guide reading recording mechanism also includes an audio recording mechanism to allow the user to synchronously record the guide reading audio data while recording the guide reading event trace.

According to an embodiment of the invention, a server is set up to provide online

guide reading web page contents. The server includes at least: a central processing unit, a communication interface, a memory and a guide reading playing mechanism. The communication interface is for connecting a communication link. The memory stores at least a digitized article content capable of responding to events through input device

5 and a guide reading content. The article content may be displayed on an article web page window in a container at a user end through the communication interface via a communication link for the user users to read. The guide reading content includes at least a guide reading event trace which may be loaded in the article web page window through the communication interface via a communication link. The guide reading

10 event trace is linked to an intent guide reading portion in the article web page. When the guide reading event trace is the intent guide reading portion is guided, the required guide reading actions (i.e. operating the mouse or pressing the keyboard, etc.) by a guide in the container or in the article web page will trigger the guide reading event trace comprising the information related to all of the guide reading events.

15 The guide reading playing mechanism may be loaded in the article web page window through the communication interface via a communication link for playing the guide reading content in the article web page window. The guide reading playing mechanism includes at least an event triggering mechanism which may be based on the an intent guide reading portion designated by the user users on the article web page to search and

20 retrieve the guide reading event trace linked to the intent guide reading portion from the memory, and the event triggering mechanism will trigger the guide reading event trace according to event triggering time sequences in the article web page window. The event triggering mechanism further includes functions function to continue, to pause or to resume playing the guide reading event trace.

25 The memory set forth above further includes remark contents linking linked to keywords of the article content. The remark contents may be linked through the communication interface via a communication link to allow the user to inquire keyword remarks in the article content. Or the memory set forth above may further include remark contents linked to a plurality of independent units composing of separated from

30 the article content. The remark contents may be linked through the communication interface via a communication link to allow the user to inquire the remarks related to the independent units of the article.

The guide reading content further includes at least a guide reading audio data linking linked to the an intent guide reading portion in the article web page. The guide reading

audio data may be loaded through the communication interface via a communication link into the article web page window. And the guide reading playing mechanism further includes an audio playing mechanism which may be loaded through the communication interface via a communication link into the article web page window. The audio playing mechanism in the article web page window may couple with the event triggering trigger mechanism to synchronously play the guide reading audio data of the intent guide reading portion while triggering the a guide reading event trace of the intent guide reading portion.

Moreover, the server mentioned above further includes at least a guide reading recording mechanism to allow the server end to record the guide reading content contents, or through the communication interface via a communication link load into the article web page window to allow the user users to record the guide reading content contents of the an intent guide reading portion. The guide reading content contents recorded by the user and identification data of the intent guide reading portion and the users' identification data may be transferred back and stored in the server, or stored at the user end, and set the storing path to the guide reading playing mechanism in the article web page window. The guide reading recording mechanism includes at least an event recording mechanism to allow the server end to record the guide reading event trace, or through the communication interface via a communication link load into the article web page window to allow the user users to record the guide reading event trace.

The guide reading recording mechanism further includes an audio recording mechanism to allow the server end to synchronously record the guide reading audio data while recording the guide reading event trace, or through the communication interface via a communication link load into the article web page window to allow the user users to synchronously record the guide reading audio data while recording the guide reading event trace.

According to an embodiment of the invention, the digital content guide reading apparatus includes at least: a central processing unit, a display device, a container user interface, a memory and a guide reading playing mechanism. The memory stores at least a digitized article content capable of responding to events through input device and a guide reading content. The article content may be displayed on an article window of the a container in the display device for users to read. The guide reading content includes at least a guide reading event trace which may be linked to an intent guide reading portion of the article content. When the guide reading event trace is the intent guide reading

portion is guided, the required guide reading actions (i.e. operating the mouse or pressing the keyboard, etc.) by a guide are located in the container or in the article content will trigger the guide reading event trace comprising the event traces composed of all guide reading related information related to all guide reading events. triggered by

5   the article content.

The guide reading playing mechanism is used to play the guide reading content in the article window and includes at least an event triggering trigger mechanism which may be based on an the intent guide reading portion designated by users in the article content to search and retrieve the guide reading event trace linked to the intent guide reading

10   portion from the memory, and trigger the guide reading event trace according to event triggering time sequences in the article window. The event triggering trigger mechanism further includes function to continue, to pause or to resume playing the guide reading event trace.

The apparatus set forth above includes an electronic book reading device or a

15   Personal Digital Assistant (PDA). The memory further includes a remark contents content linked to keywords of the article content to allow users to inquire the remarks of the keywords of the article content. Or the memory may also includes include a remark contents content linked to a plurality of independent units composing of separated from the article content to allow users to inquire the remarks related to the independent units

20   of the article.

Moreover, the guide reading content set forth above further includes at least a guide reading audio data linked to the an intent guide reading portion of the article content. And the guide reading playing mechanism further includes an audio playing mechanism which may be located in the article window (refer to the original p12,) to couple with

25   the an event triggering mechanism to synchronously play the guide reading audio data of the intent guide reading portion while triggering the a guide reading event trace of the intent guide reading portion.

In addition, the apparatus set forth above further includes a guide reading recording mechanism for recording the guide reading content. Furthermore, the apparatus further

30   includes a communication interface connecting to a communication link for loading the guide reading recording mechanism, guide reading playing mechanism and contents of the memory through the communication interface via a communication link. The guide reading recording mechanism includes at least an event recording mechanism for recording the guide reading event trace. The guide reading recording mechanism also

includes an audio recording mechanism to allow users to synchronously record the guide reading audio data while recording the guide reading event trace.

The foregoing, as well as additional objects, features and advantages of the invention will be more readily apparent from the following detailed description, which proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic block diagram of an environment of the invention.

FIG. 2 is an architecture block diagram of a preferred embodiment of the digital information guide reading system of the invention.

FIG. 3 is a process flow chart of an embodiment for recording guide reading contents according to the method of the invention.

FIG. 4 is a process flow chart of an embodiment for playing guide reading contents according to the method of the invention.

FIG. 5 is a process flow chart of an embodiment of a method for digital information guide reading according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The invention aims to provide techniques for recording and playing web page guide reading contents. ~~As~~ Because the webpage events are triggered via input device, the web page contents can be dynamically presented, and their container (browser) also can respond to events via input device. If a guide records these events triggered and the recording forms an event trace in event triggering time sequence. Then to trigger the event trace in time sequence can present the previous dynamic operation processes. ~~in processes of dynamically reading the web page contents, the triggered events can sequentially trigger and present original reading conditions.~~ Hence in addition to video and audio materials, the web page guide reading content ~~contents~~ can also include a guide reading event trace which is a guide reading process recorded previously by the guide. ~~actions on the web page or event traces triggered in the container during guide reading processes.~~ ~~During~~ When playing the guide reading content ~~processes,~~ video and audio output may be played to lead the reader to read web page contents and the reader can ~~follow video and audio directions to~~ trigger corresponding events in the guide

reading event trace to present the previous dynamic operation processes. ~~Consecutively. Readers may also temporarily stop the broadcasting of the guide reading contents and directly browse the dynamic contents provided by the web page.~~

The invention may be adopted on web site systems to provide guide reading function.

5   The web site system provides article contents, remark contents, guide reading contents and guide reading playing mechanism to a plurality of users for online reading ~~of~~ web page contents that have guide reading function.   I.E. the web site system can through networks present an article content on an article web page window

at a user end, and load <u>into the user end</u> a guide reading content and a guide reading

10   playing mechanism. And the user can utilize the guide reading playing mechanism to play the guide reading content to get help when reading the article content, and to do online real time inquiry for the remarks of the article content. Referring to FIG. 1 for an environment of the invention, there are a plurality of users 200 who may logon a web site system 100 through a communication link (such as a network) 300 to do online

15   reading ~~those guide reading function enabled contents.~~ <u>of those contents with guide reading function.</u>

Referring to FIG. 2 for a system architecture of an embodiment of the invention, the web site system 100 includes at least a communication interface 102, a central processing unit 104, a memory 106, a guide reading recording mechanism 114 and a

20   guide reading playing mechanism 116. The memory 106 stores at least an article content 108, a remark content 110 and a guide reading content 112. The guide reading content 112 includes ~~at least~~ a guide reading audio data 112B and a guide reading event trace 112A. The guide reading recording mechanism 114 includes ~~at least~~ an audio recording mechanism 114B and an event recording mechanism 114A. The guide reading

25   playing mechanism 116 includes ~~at least~~ an audio playing mechanism 116B and an event triggering mechanism 116A.

The article content 108 is a digitized document capable of responding to events <u>through input device.</u> The article content 108 may be divided in a plurality of article independent units (such as article paragraphs, sentences or pictures) for storing

30   separately. The remark content 110 may also be divided in a plurality of remark independent units and stored separately. The article independent units and keywords contained therein and the remark independent units are linked to allow users to inquire the remarks for the article independent units and keywords contained therein when reading the article content 108. The remark independent units and keywords contained

35   therein may also be linked to the remark independent units to allow users to inquire the

remarks of the remark independent units and keywords when reading the remark content 110. The guide reading audio data 112B are guide reading (browsing and instructions) audio data for the article content 108 and remark content 110. The guide reading event trace 112A is an event trace composed of all guide reading events ~~event~~ related

5　information triggered by a guide's guide reading actions (i.e. operating the mouse or pressing the keyboard, etc.) via input device in the web page or its container (remark web page or its container).

The guide reading recording mechanism 114 is for recording the guide reading content 112. The audio recording mechanism 114B is for recording the guide reading

10　audio data 112B. The event recording mechanism 114A is for recording the guide reading event trace 112A. In addition, the guide reading playing mechanism 116 is for playing the guide reading content 112. The audio playing mechanism 116B is for playing the guide reading audio data 112B and the event triggering mechanism 116A is coupled with the audio playing mechanism 116B to synchronously trigger the guide

15　reading event trace 112A.

The communication interface 102 connects a communication link for transmitting messages to or receiving messages from users. The central processing unit 104 is coupled with the communication interface 102, memory 106, guide reading recording mechanism 114 and guide reading playing mechanism 116 to process users' requesting

20　messages transmitted through the communication interface 102, and based on this web site system 100 transmits the article content 108 and remark content 110 to users' locations, and downloads the guide reading recording mechanism 114 or the guide reading playing mechanism 116 to users' locations, and transmits the guide reading content 112 to users' locations.

25　Whether to retain or discard the events recorded by the event recording mechanism 114A depends on if they are required for guide reading. For instance, the event of moving the cursor to indicate guide reading positions, event of reversing character color, event of inquiring remark content 110, event of closing a remark window, event of linking a hyperlink ~~superlink~~ object, and the like are events should be recorded. ~~Regard~~

30　Regarding the related information of those events that should be recorded, in terms of web page event, some web page objects have specific event processing procedures. For instance, a multimedia playing button (btnObj) may be used to play the multimedia object. When users click the button once, the contents of the multimedia object are started to play. Hence the related information of the web page event should be

35　recorded are: identification data of the button, even type (onclick) and triggering time.

However there is no need to record processing procedures for the event. As when playing the guide reading content 112, the event triggering mechanism ~~moves,~~ at the triggering time, ~~the mouse to the button and click or~~ sets ~~set~~ the button to be clicked (btnObj.click( )), or generates ~~generate~~ click pseudo events (pseudo events, btnObj_onclick), and then the multimedia object starts to play automatically. However some web page events do not have preset web page event processing procedures, and event processing procedures cannot be activated through triggering the web page event, and then the event processing procedures must be recorded. But there is no need to record the event type, such as to reverse color ~~for~~ of a keyword in an object of an article web page. The recording web page event related information is: keyword ~~contents~~ and identification data of the object and triggering time; but the event type is none. Contents of the processing procedures are procedures required to reverse the color ~~for~~ of the keyword in the object so that when the guide reading content 112 is played, the event triggering mechanism 116A reverses the color of the keyword in the object at the triggering time. Of course, the recording event is not limited to web page events, and container events (container for holding the web page) may also be recorded. ~~Regard~~ Regarding the event of reversing the color of a keyword in an object on an article web page set forth above, mouse event at the triggering time may be recorded, i.e. record mouse position and action (dragging or double click) at the triggering time. When the guide reading content 112 is played, the event triggering mechanism 116A then drives the mouse to the selected location to ~~proceed~~ present the effect of actions of dragging or double click at the triggering time, and the effect is the reverse of ~~to reverse~~ the color of the keyword in the object.

The guide reading recording mechanism 114 includes, besides the event recording mechanism 114A, the audio recording mechanism 114B. Referring to FIG. 3 for a process flow chart of an embodiment of the invention for recording the guide reading content 112 (triggering events on an article web page are taken as the recording event example):

1. Time prior to t0: An article content ~~consists~~ consisting of a plurality of article independent units is loaded into an article web page window, and a timer is installed in the article web page.

2. Time t0: The timer set in the article web page is activated. A guide ~~reader~~ starts to guide ~~read~~ the ~~guide reading~~ article web page content. The audio recording mechanism starts to record voice speech of the guide, and the event recording mechanism starts to record web page events related information (identification

data of <u>web page objects related to</u> the <u>events</u> ~~event related to web page objects~~, event <u>types</u> ~~type~~, event processing procedures and event triggering time) triggered on the article web page by the guide's guide reading actions <u>(i.e. operating the mouse or pressing the keyboard, etc.) through input device</u> on a guide reading event trace (e-Trace).

3. Time t1: The audio recording mechanism continues to record voice speech of the guide. The article web page window <u>produces</u> ~~triggers a~~ <u>the</u> first web page event. The event recording mechanism records a web page object (Obj1), event type (Kind1), processing procedures (Proc1), and triggering time (t1) <u>that are all</u> related to the <u>first web page</u> event on ~~a~~ <u>the</u> first element e1 of the guide reading event trace (e-Trace).

4. Time t2: The audio recording mechanism continues to record voice speech of the guide. A multimedia object in the article web page responds to guide ~~reading~~ requirements and ~~has~~ the playing button <u>is</u> pressed to start playing. The event recording mechanism records identification data (Obj2), event type (onclick), processing procedures (none), triggering time (t2) of the <u>playing</u> button on <u>the</u> second element e2 of the guide reading event trace (e-Trace). As the playing button is <u>linked to</u> ~~included in~~ the ~~original~~ <u>event</u> processing procedures, <u>it's not necessary to record the processing procedures. All we need to do is to record</u> ~~only~~ the event type ~~is recorded~~ as onclick. When playing time reaches t2, the ~~mouse is moved to~~ Obj2 button ~~and a click~~ is ~~performed~~ <u>clicked</u>, or an Obj2.click ( ) is set, or a pseudo event Obj2_onclick is generated.

5. Time t3: The audio recording mechanism continues to record voice speech of the guide. The article web page window <u>produces</u> ~~triggers a~~ <u>the</u> third web page event. The event recording mechanism records a web page object (Obj3), event type (Kind3), processing procedures (Proc3), and triggering time (t3) <u>that are all</u> related to the <u>third web page</u> event on ~~a~~ <u>the</u> third element e3 of the guide reading event trace (e-Trace).

6. Time t4: The audio recording mechanism continues to record voice speech of the guide. The multimedia object in the step 4 has a stop playing button pressed to stop playing in response to the requirement of the guide. The event recording mechanism records the identification data (Obj4), event type (onclick), processing procedures (none), and triggering time (t4) of the stop playing button on ~~a~~ <u>the</u> fourth element e4 of the guide reading event trace (e-Trace).

7. Time t5: The audio recording mechanism continues to record voice speech of the

guide. The guide in response to guide ~~reading~~ requirements selects (or reverses color of) a keyword on the article web page window to inquire remark content of the keyword. The event recording mechanism records the keyword and object identification data (Obj5), event type (none), processing procedures (Proc5), and triggering time (t5) of the keyword on ~~a~~ the_ fifth element e5 of the guide reading event trace (e-Trace). As the event of reversing keyword color on the article web page does not have preset processing procedures, the content of the Proc5 is: Reverse the color of the keyword in Obj5. However the event type is not recorded. When playing the guide reading content at time t5, the color of the keyword is reversed. The mouse event (mouse location and dragging or double click) at the triggering time may also be recorded so that when the guide reading content is played at time t5, the mouse is driven on that location to perform the effect of the action of dragging or double click ~~actions~~ to reverse the color of the keyword in the object.

~~8.~~ Time t6:   The audio recording mechanism continues to record voice speech of the guide. The guide in response to guide ~~reading~~ requirements presses inquiry button to inquire the remark content of the keyword selected (or reversed color) at step 7. The event recording mechanism records the identification data (Obj6), event type (onclick), processing procedures (none), and triggering time (t6) of the inquiry button on ~~a~~ the sixth element e6 of the guide reading event trace (e-Trace). The onclick event of the Obj6 has preset processing procedures which are: retrieve the keyword of the reversed color on the article web page and transmit to the server which requested the inquiry remark. The obtained remark content is presented on a smaller remark web page window.

9. Time t7: The remark web page window has been focused; the audio recording mechanism continues to record voice speech of the guide; the guide in response to guide ~~reading~~ requirements triggers a web page event on the remark web page window. The event recording mechanism records a web page object (Obj7), event type (kind7), processing procedures (Proc7), and triggering time (t7) that are all related to the web page event on ~~a~~ the seventh element e7 of the guide reading event trace (e-Trace).

10.Time t8: The audio recording mechanism continues to record voice speech of the guide.   The guide closes the remark web page window.   The event recording mechanism records the identification data of the remark web page window (Obj8), event type (none), processing procedures (Proc8: required procedures for closing

the remark web page window), and triggering time (t8) on ~~an~~ the eighth element e8 of the guide reading event trace (e-Trace). There is no need to record the event type as long as the remark web page window can be closed at time t8. The mouse event (mouse location and click actions) at the triggering time may also be

5   recorded so that when the guide reading content is played at time t8, the mouse is driven to that location to perform the effect of clicking action for closing the remark web page window.

    11.Time after t8:   The article web page window has been focused again; the audio recording mechanism and the event recording mechanism continue the steps set

10   forth above to record the guide reading content.

The steps 7 and 8 set forth above depict guide's actions for inquiring remark contents on the article web page. In fact, inquiry of related remarks of the remark contents may also be done on the remark web page window. In addition, the guide reading content does not necessarily be full text guide reading of the article content. Partial section of

15   certain web page objects (such as selected paragraphs or picture objects) may also be recorded in the guide reading content as long as the guide reading content and targets for serving guide reading are set to link.   Moreover, the guide reading content may be recorded in the server end and downloaded into a user end, or download the guide reading recording mechanism into the user end to allow the user to do self recording.

20   The recorded guide reading content may be transferred back to the server for storing or being stored in the user end. When storing in the user end, performing guide reading may be done by designating storage paths of the guide reading content to the guide reading playing mechanism.

The guide reading playing mechanism 116, besides including the event triggering

25   mechanism 116A, also includes the audio playing mechanism 116B. The audio playing mechanism 116B is for playing the guide reading audio data 112B. The event triggering mechanism 116A is for synchronously triggering the guide reading event trace 112A.

The following is an embodiment of the invention for the guide reading playing mechanism 116 to play the guide reading content 112 (referring to FIG. 4).   The

30   processing steps include:

    1. Prior to time t0:   An article web page window at a user end shows an article content, and a guide reading content and a guide reading playing mechanism are loaded. The guide reading content includes a guide reading audio data and a guide reading event trace. The guide reading playing mechanism includes an

35   audio playing mechanism and an event triggering mechanism.   There is a timer

located in the web page.

2. The user requests to play the entire guide reading content, and the timer is activated:

    a. At time t0: The audio playing mechanism starts from the beginning time to play entire guide reading audio data and continues playing at the following time frames.

    b. At time t1: The event triggering mechanism triggers a the first event trace e1 in the guide reading event trace e-Trace, i.e. an article web page object Obj1 is triggered by the event triggering mechanism to generate generates an event Kind1 and through a Proc1 to respond to the effect of the event.

    c. At time t2: The event triggering mechanism triggers a the second event trace e2, and a multimedia object on the article web page starts playing. The playing button Obj2 is triggered by the event triggering mechanism to generate generates an event a pseudo event Obj2_onclick and contents of the multimedia object are played.

    d. At time t3: The event triggering mechanism triggers a the third event trace e3, an article web page object Obj3 is triggered by the event triggering mechanism to generate generates an event Kind3 and through a Proc3 to respond to the effect of the event.

    e. At time t4: The event triggering mechanism triggers a the fourth event trace e4. The multimedia object at step c stops playing. A stop playing button Obj4 is triggered by the event triggering mechanism to generate generates an onclick event a pseudo event Obj2_onclick to stop the playing of the multimedia object.

    f. At time t5: The event triggering mechanism triggers a the fifth event trace e5 for reversing the color of a keyword in an object Obj5 in an the article web page through a procedure Proc5. If the recording content of the fifth event trace e5 is a mouse event (mouse location and mouse dragging or double click actions), then the event triggering mechanism drives drive the mouse to that location to present the effect of actions of for dragging or double click actions to at the triggering time, and the effect is the reverse of the color of the keyword in the object.

    g. At time t6: The event triggering mechanism triggers a the sixth event trace e6. An inquiry button Obj6 in the article Web page is triggered by the event triggering mechanism to generate generates an onclick event a

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pseudo event Obj2 onclick. The onclick event of the Obj6 has a preset processing procedure: fetch the character string on the article web page that has the color reversed and transfer the reversed character string to the server requesting for inquiry of remarks. The obtained remark content is presented ~~in~~ on a smaller remark web page window at the user end.

h. At time t7: The event triggering mechanism triggers ~~a~~ the seventh event ~~trace~~ e7. The remark web page has an object Obj7 ~~generating~~ triggered by the event triggering mechanism to generate an event Kind7 and through a Proc7 to ~~respond to~~ display the effect of the event.

i. At time t8: The event triggering mechanism triggers ~~an~~ the eighth event ~~trace~~ e8. The remark web page has an object Obj8 which is closed through a Proc8. If recording content of the eighth event ~~trace~~ e8 is a mouse event (mouse location and mouse click actions), then the event triggering mechanism drives ~~drive~~ the mouse to that location to ~~do~~ present the effect of clicking actions to close the remark web page window.

j. After time t8: The event triggering mechanism continuously triggers the guide reading event trace e-Trace, and the audio playing mechanism also continuously plays the guide reading audio data.

3. When the user requests to start playing the guide reading content at time tp1 (~~where~~ wherein tp1 > t1), the timer starts counting time at time tp1, and the audio playing mechanism starts playing at time tp1. As tp1 > t1, the event triggering mechanism does not trigger e1, but consecutively triggers the rest of the guide reading event trace e-Trace members after e2 (i.e. e2, e3, ... e8).

4. When the user requests to start playing the guide reading content at time tp2 (~~where~~ wherein tp2 > t2), the timer starts counting time at time tp2, and the audio playing mechanism starts playing at time tp2. As tp2 > t2, and at time tp2 ~~a~~ the multimedia object is played. Hence the multimedia object starts playing at time tp2. Thereafter, the event triggering mechanism consecutively triggers the guide reading event trace e-Trace members after e3 (i.e. e3, e4, ... e8).

5. When the user requests to start playing the guide reading content at time tp3 (~~where~~ wherein tp3 > t5), the timer starts counting time at time tp3, and the audio playing mechanism starts playing at time tp3. As tp3 > t5, and e5 is an event ~~for~~ of reversing the color of a keyword in the article web page. And e6 is an event for inquiring remarks. Hence the event triggering mechanism will still trigger e5 event, thereafter, triggers the e6 event. Triggering e5 event is to provide

processing procedures for the e6 event for fetching the reversed color keyword on the article web page. Thereafter, the event triggering mechanism consecutively triggers the guide reading event trace e-Trace members after e7 (i.e. e7 and e8).

6. When the user requests to start playing the guide reading content at time tp4 (~~where~~ wherein tp4 > t6), the timer starts counting time at time tp4, and the audio playing mechanism starts playing at time tp4. As tp4 > t6, and e6 is an event ~~for~~ of inquiry remarks, and the remark web page window has been focused, the event triggering mechanism triggers e7 event on the remark web page window. Thereafter, the event triggering mechanism triggers e8 event in the guide reading event trace e-Trace.

Referring to FIG. 5 for an embodiment of the method of the invention for guide reading digital contents, the steps include:

1. Presenting an article content ~~in~~ on an article window in a container at a user end. The article content may be a digitized document responding to ~~an~~ events ~~event~~ through input device. If the carrier of the article content is a web page, the container is a web page browser (step 502).

2. Loading a guide reading content in the article window. The guide reading content includes at least a guide reading event trace which is linked to an intent guide reading portion of the article content. When ~~the guide reading event trace is~~ the intent guide reading portion is guided, the required guide reading actions (i.e. operating the mouse or pressing the keyboard, etc.) by a guide in the container or in the article content will trigger the guide reading event trace comprising the information related to all of ~~the~~ guide reading events. (step 504).

3. Loading a guide reading playing mechanism in the article window. The guide reading playing mechanism includes at least an event triggering mechanism (step 506).

4. The event triggering mechanism in the guide reading playing mechanism can search and retrieve ~~a~~ the guide reading event trace linked to the intent guide reading portion ~~based on an intent guide reading portion of the article content designated by the user~~, and according to sequences of event triggering time in the article window triggers the guide reading event trace. The event triggering ~~trigger~~ mechanism further includes function to continue, to pause or to resume playing of the guide reading event trace (step 508).

The container of the method set forth above may be stored in a computer readable storage medium. The container may be a software program (such as a web page

browser, electronic book reading software, computer assisted instructions software, document processing software, spreadsheet (trail balance) software, database software, presentation software, or electronic mail software and the like). The method further includes loading a remark content in the user end's ~~end~~ remark window to link

5   keywords in the article content. Then the method allows the user to inquire remarks of these ~~the~~ keywords in the article content. The method also includes loading a remark content in the user end's remark window to link a plurality of article independent units composing of ~~separated from~~ the article content to allow the user to inquire remarks related to these ~~the~~ article independent units.

10   The guide reading content further includes ~~at least~~ a guide reading audio data linked to ~~an~~ the intent guide reading portion of the article content. And the guide reading playing mechanism further includes an audio playing mechanism which may be located in the article window to couple with the event triggering mechanism for synchronously playing the guide reading audio data of the intent guide reading portion while the event

15   triggering mechanism triggers the guide reading event trace of the intent guide reading portion.

The method set forth above further includes loading a guide reading recording mechanism in the article window. The guide reading recording mechanism includes at least an event recording mechanism for recording the guide reading event trace. The

20   guide reading recording mechanism also includes an audio recording mechanism which allows the user to record the guide reading event trace and synchronously records the guide reading audio data.

The techniques of the invention may also be transferred to Computer Assisted Instructions (CAI) optical disks now available on the market. Teaching materials and

25   data stored in CAI optical disks ~~may be transformed to~~ further include the guide reading content ~~contents~~ and the guide reading playing mechanism so that users can use the guide reading playing mechanism to play the guide reading content of the teaching materials to accelerate learning speed and improve learning quality. Furthermore, the techniques of the invention may also be transferred to CAI software. The CAI software

30   with the built-in guide reading playing mechanism may download teaching materials and the guide reading content of the teaching materials so that the CAI software can also play the guide reading content. The CAI optical disks or software may also include the built-in guide reading recording mechanism for recording users' guide reading contents based on users' requirements in addition to playing the guide reading content.

35   The general office software (document processing software, spreadsheet (trial balance)

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software, database software, presentation software, or electronic mail software and the like) or electronic book reading software may also adopt the techniques provided by the invention. ~~As~~ <u>The</u> general office software or electronic book reading software can download <u>not only</u> digital <u>content</u> ~~data~~ <u>but also the related guide reading content played</u>

5   <u>by</u> the built-in guide reading playing mechanism ~~in the office software can also download. Then digital data may be downloaded for guide reading~~ to improve reading effect. Of course, if general office software or electronic book reading software further has <u>the</u> built-in guide reading recording mechanism, users may record ~~digital data~~ <u>the</u> guide reading content <u>related to a digital file</u>, and then <u>the</u> users may <u>send their materials</u>

10 <u>that includes</u> ~~exchange~~ not only the original digital files but also <u>the guide reading content of the files</u> ~~remarks and commentaries for the original files or directory files~~ to aid reading.

By the same token, hardware for reading digital <u>content</u> ~~data~~ such as electronic book readers or PDAs may also adopt the techniques of the invention to present <u>digital</u>

15 <u>content</u> ~~data~~ more effectively and to enhance users' reading quality. If the hardware has <u>the</u> built-in guide reading playing mechanism, digital <u>content</u> ~~data~~ and ~~digitized~~ <u>the</u> guide reading content may be downloaded to proceed digital reading <u>aided</u> ~~coupling~~ with the guide reading <u>playing</u> mechanism to improve reading quality. Users also may record the ~~entire~~ guide reading content <u>regarded as</u> ~~or record~~ dynamic remarks ~~targeting~~

20 ~~selected objects.~~

In addition, the techniques of the invention may also be transferred to network browser software. For instance, the browser software may have <u>the</u> built-in guide reading playing mechanism (or including <u>the</u> guide reading recording mechanism) to download <u>the</u> guide reading content ~~in web pages and~~ <u>related to</u> web page contents.

25 While the preferred embodiments of the inventions have been set forth for purpose of disclosure, modifications of the disclosed embodiments of the invention as well as other embodiments thereof may occur to those skilled in the art. Accordingly, the appended claims are intended to cover all embodiments which do not depart from the spirit and scope of the invention.